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(54) VIRTUAL CARD OPENING METHOD AND SYSTEM, PAYMENT SYSTEM, AND CARD ISSUING SYSTEM

(57) A virtual card opening method and system, a payment system, and a card issuing system are disclosed. The method comprises: obtaining, by a payment system (600), a rule for acting as an agent to open a card and a card opening condition from a card issuing system (800) in advance, so that when the payment system (600) receives a virtual card opening request sent by a user and a card opening condition is satisfied, the payment system (600) generates, according to the rule for acting as an agent to open a card and user information in the virtual card opening request, a target virtual card requested by the user.

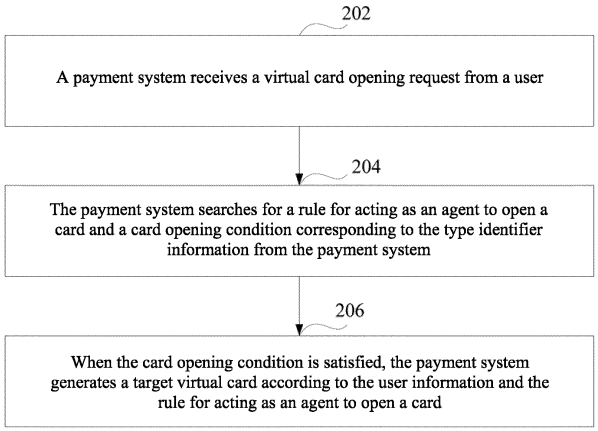

FIG. 2

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Description

TECHNICAL FIELD

[0001] This application relates to the field of computer technologies, and in particular, to a virtual card opening method and system, a payment system, and a card issuing system.

BACKGROUND

[0002] With the application and promotion of virtual card products such as a virtual electronic public transportation card and a virtual electronic membership card, more and more merchants issue virtual cards in a third-party payment system, so that a user can receive, through the third-party payment system, a virtual card issued by a merchant, and thus can shop in an offline store by using the virtual card received in the third-party payment system. In actual application, when the user receives, in the third-party payment system, the virtual card issued by the merchant, it depends on a data processing capability of the merchant's system. A third-party payment system with a strong traffic diversion capability may bring large user traffic to the merchant system. Because the merchant system has high traffic load, a delay may be caused when the merchant system feeds back a virtual card to the user.

SUMMARY

[0003] Embodiments of this application provide a virtual card opening method and system, a payment system, and a card issuing system, to effectively improve virtual card opening efficiency for a user while reducing the traffic pressure of the card issuing system.

[0004] An embodiment of this application provides a virtual card opening method, including:

receiving, by a payment system, a virtual card opening request sent by a user, the virtual card opening request including user information of the user and type identifier information of a virtual card requested by the user;

searching, by the payment system, for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system; and

generating, by the payment system, a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0005] Optionally, the method further includes:

storing, by the payment system, data information of the target virtual card in the payment system.

[0006] Optionally, the method further includes:

asynchronously sending, by the payment system, the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card.

[0007] Optionally, the asynchronously sending, by the payment system, the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card includes:

sending, by the payment system, the data information of the target virtual card stored in the payment system to the card issuing system according to a preset time interval.

[0008] Optionally, the asynchronously sending, by the payment system, the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card includes:

sending, by the payment system, the data information of the target virtual card stored in the payment system to the card issuing system after the payment system receives a target virtual card using request sent by the user.

[0009] Optionally, the payment system receives the target virtual card using request sent by the user through a user end.

[0010] Optionally, the payment system performs a recharging operation on the target virtual card.

[0011] An embodiment of this application further provides a payment system, including a receiving unit, a searching unit, and a card opening unit, where:

the receiving unit is configured to receive a virtual card opening request sent by a user, the virtual card opening request including user information of the user and type identifier information of a virtual card requested by the user;

the searching unit is configured to search for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system; and

the card opening unit is configured to generate a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0012] Optionally, the payment system further includes a storage unit, where:

the storage unit is configured to store data information

of the target virtual card in the payment system.

[0013] Optionally, the payment system further includes an asynchronous sending unit, where:

the asynchronous sending unit is configured to asynchronously send the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card.

[0014] Optionally, that the asynchronous sending unit is configured to asynchronously send the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card includes:

sending the data information of the target virtual card stored in the payment system to the card issuing system according to a preset time interval.

[0015] Optionally, the receiving unit is configured to receive a virtual card using request sent by the user; and the asynchronous sending unit is configured to send the data information of the target virtual card stored in the payment system to the card issuing system.

[0016] Optionally, the receiving unit is configured to receive a target virtual card using request sent by the user through a user end.

[0017] Optionally, the payment system further includes a recharging unit, where:

the recharging unit is configured to perform a recharging operation on the target virtual card.

[0018] An embodiment of this application further provides a payment system, including a memory and a processor, where:

the memory is configured to store a program; and

the processor is configured to execute the program stored in the memory, and specifically perform the following operations:

receiving a virtual card opening request sent by a user, the virtual card opening request including user information of the user and type identifier information of a virtual card requested by the user;

searching for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system; and

generating a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0019] An embodiment of this application further provides a computer readable storage medium. The computer readable storage medium stores one or more programs. The one or more programs, when executed by an electronic device including multiple application programs, cause the electronic device to perform the following operations:

receiving a request for acting as an agent to open a card sent by a user, the virtual card opening request including user information of the user and type identifier information of a virtual card requested by the user;

searching for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system; and

generating a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0020] An embodiment of this application further provides a virtual card opening method, including:

receiving, by a card issuing system, a request for acting as an agent to open a card sent by a payment system; and

sending, by the card issuing system, a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0021] Optionally, the card issuing system receives data information of a newly generated target virtual card sent by the payment system.

[0022] An embodiment of this application further provides a card issuing system, including a receiving unit and a sending unit, where:

the receiving unit is configured to receive a request for acting as an agent to open a card sent by a payment system; and

the sending unit is configured to send a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0023] Optionally, the receiving unit is configured to receive data information of a newly generated target virtual card sent by the payment system.

[0024] An embodiment of this application further provides a card issuing system, including a memory and a processor, where:

the memory is configured to store a program; and
the processor is configured to execute the program stored in the memory, and specifically perform the following operations:

receiving a request for acting as an agent to open a card sent by a payment system; and
sending a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0025] An embodiment of this application further provides a computer readable storage medium. The computer readable storage medium stores one or more programs. The one or more programs, when executed by an electronic device including multiple application programs, cause the electronic device to perform the following operations:

receiving a request for acting as an agent to open a card sent by a payment system; and
sending a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0026] An embodiment of this application further provides a virtual card opening system. The system includes a user end, a payment system, and a card issuing system, where:

the payment system is configured to send a request for acting as an agent to open a card to the card issuing system;
the card issuing system is configured to receive the request for acting as an agent to open a card, and send a rule for acting as an agent to open a card and a card opening condition to the payment system;
the user end is configured to receive a virtual card opening request sent by a user, and send the virtual card opening request to the payment system, the virtual card opening request including user information of the user and type identifier information of a virtual card requested by the user; and
the payment system is configured to receive the virtual card opening request, search for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system, and generate a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0027] The at least one technical solution used in the embodiments of this application can achieve the following beneficial effects:
A payment system obtains a rule for acting as an agent to open a card and a card opening condition from a card issuing system in advance, so that when the payment system receives a virtual card opening request sent by a user and a card opening condition is satisfied, the payment system generates, according to the rule for acting as an agent to open a card and user information in the virtual card opening request, a target virtual card requested by the user. Therefore, when the user receives the virtual card in the payment system, real-time interaction between the payment system and the card issuing system is avoided, thus effectively improving virtual card opening efficiency of the user.

[0028] After receiving a request for acting as an agent to open a card from the payment system, the card issuing system sends the rule for acting as an agent to open a card and the card opening condition to the payment system, so that when the card opening condition is satisfied, the payment system can generate the target virtual card for the user according to the rule for acting as an agent to open a card. Therefore, virtual card opening is decoupled from the card issuing system under the condition that the user receives the virtual card in time, and traffic load pressure of the card issuing system is effectively reduced.

BRIEF DESCRIPTION OF THE DRAWINGS

[0029] The accompanying drawings described herein are used for providing further understanding of this application, and becomes a part of this application. Schematic embodiments of this application and description thereof are used for illustrating this application, but do not limit this application improperly. In the drawings:

FIG. 1 is a schematic diagram of a virtual card opening method in the existing technology;
FIG. 2 is a schematic flowchart of a virtual card opening method according to an embodiment of this application;
FIG. 3 is a schematic flowchart of a virtual card opening method according to an embodiment of this application;
FIG. 4 is a schematic diagram of a virtual card opening method according to an embodiment of this application;
FIG. 5 is a schematic structural diagram of an electronic device according to an embodiment of this application;
FIG. 6 is a schematic structural diagram of a payment system according to an embodiment of this applica-

tion;

FIG. 7 is a schematic structural diagram of an electronic device according to an embodiment of this application;

FIG. 8 is a schematic structural diagram of a card issuing system according to an embodiment of this application; and

FIG. 9 is a schematic structural diagram of a virtual card opening system according to an embodiment of this application.

DETAILED DESCRIPTION OF THE INVENTION

[0030] FIG. 1 is a schematic diagram of a virtual card opening method in the existing technology.

[0031] As shown in FIG. 1, a user sends a virtual card opening request to a payment system through a traffic entrance for receiving virtual cards in a user end. According to the virtual card opening request, the payment system redirects the user to a card opening page provided by a merchant system. The user views an introduction for receiving virtual cards and agrees to a protocol for receiving virtual cards on the card opening page, and provides the merchant system with user information required for opening the virtual card. When determining that the user meets conditions for receiving the virtual card, the merchant system generates, according to the user information, a target virtual card requested by the user. The merchant system stores data information of the target virtual card, and synchronously sends the data information of the target virtual card to the payment system, so that the user completes virtual card reception. The user can view the target virtual card received in the payment system on the user end, and thus can use, on the user end, the target virtual card received in the payment system when shopping in an offline store.

[0032] However, when the user receives the virtual card in the payment system, the payment system needs to interact with the merchant system in real time. When the payment system has a strong traffic diversion capability, the payment system brings large user traffic to the merchant system in a short period of time. Because the merchant system has high traffic load, a delay may be caused when the merchant system sends the virtual card to the payment system. On one hand, a card receiving time of the user may be increased, and receiving experience of the user may be decreased. On the other hand, large traffic load is brought to the merchant system, thus increasing the establishment and maintenance costs of the merchant system.

[0033] To achieve the objective of this application, embodiments of this application provide a virtual card opening method and system, a payment system, and a card issuing system. The method includes: obtaining, by a payment system, a rule for acting as an agent to open a card and a card opening condition from a card issuing system in advance, so that when the payment system receives a virtual card opening request sent by a user and a card opening condition is satisfied, the payment system generates, according to the rule for acting as an agent to open a card and user information in the virtual card opening request, a target virtual card requested by the user. Therefore, when the user receives the virtual card in the payment system, real-time interaction between the payment system and the card issuing system is avoided, thus effectively improving virtual card opening efficiency of the user.

[0034] After receiving a request for acting as an agent to open a card from the payment system, the card issuing system sends the rule for acting as an agent to open a card and the card opening condition to the payment system, so that when the card opening condition is satisfied, the payment system can generate the target virtual card for the user according to the rule for acting as an agent to open a card. Therefore, virtual card opening is decoupled from the card issuing system under the condition that the user receives the virtual card in time, and traffic load pressure of the card issuing system is effectively reduced.

[0035] The following clearly and completely describes the technical solutions in this application with reference to the embodiments of this application and the corresponding accompanying drawings. Apparently, the described embodiments are merely some, rather than all, of the embodiments of this application. All other embodiments obtained by a person of ordinary skill in the art based on the embodiments of this application without creative efforts shall fall within the protection scope of this application.

[0036] The following describes the technical solutions provided in the embodiments of this application with reference to the accompanying drawings.

Embodiment 1

[0037] FIG. 2 is a schematic flowchart of a virtual card opening method according to an embodiment of this application. The method may be shown as follows:

Step 202: A payment system receives a virtual card opening request sent by a user.

[0038] The virtual card opening request includes user information of the user and type identifier information of a virtual card requested by the user.

[0039] The user is redirected to a virtual card receiving page of the payment system through a traffic entrance for receiving virtual cards in a user end. After determining the user information that is provided by the user and required for receiving the virtual card and determining the type identifier information of the virtual card requested by the user, the user end generates a virtual card opening request including the user information and the type identifier information of the virtual card, and sends the virtual card opening request to the payment system.

[0040] The traffic entrance for receiving virtual cards in the user end may be a virtual card advertisement link, a virtual card introduction information in the user end or

another form of traffic entrance for receiving virtual cards, and is not limited herein.

[0041] The type identifier information of the virtual card may be identity information for identifying an issuer of the virtual card. For example, if the type identifier information is merchant A, it indicates that the virtual card requested by the user is a virtual card provided by the merchant A.

[0042] Step 204: The payment system searches for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information.

[0043] The rule for acting as an agent to open a card and the card opening condition are obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and are stored in the payment system.

[0044] The payment system sends a request for acting as an agent to open a card to the card opening system in advance. After agreeing on a card opening agency operation of the payment system, the card opening system feeds back the rule for acting as an agent to open a card and the card opening condition to the payment system. The payment system receives the rule for acting as an agent to open a card and the card opening condition, and stores the rule for acting as an agent to open a card and the card opening condition in the payment system.

[0045] The rule for acting as an agent to open a card represents a card opening rule agreed upon by the payment system and the card issuing system. The card opening condition may include an introduction, a protocol, and a condition for receiving the virtual card, and may further include other card opening conditions according to actual situations, which are not specifically limited herein.

[0046] It should be noted that, the payment system can receive rule for acting as an agent to open a card and card opening conditions sent by different card opening systems. For ease of distinguishing, in the payment system, a mapping relationship of a rule for acting as an agent to open a card and a card opening condition with the type identifier information of a virtual card that can be provided by a card opening system sending the rule for acting as an agent to open a card and the card opening condition may be established. For example, if the type identifier information of a virtual card having a mapping relationship with a rule for acting as an agent to open a card and a card opening condition is merchant A, it indicates that the rule for acting as an agent to open a card and the card opening condition correspond to a virtual card that can be provided by the merchant A.

[0047] After receiving the virtual card opening request sent by the user through the user end, the payment system searches for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information in the virtual card opening request.

[0048] Step 206: When the card opening condition is satisfied, the payment system generates a target virtual card according to the user information and the rule for acting as an agent to open a card.

[0049] The payment system may push the introduction and the protocol for receiving a virtual card in the card opening condition to the user end, so that the user can view the introduction and the protocol for receiving a virtual card.

[0050] After the payment system receives an instruction, sent by the user through the user end, of agreeing on the protocol for receiving a virtual card, the payment system may complete examination of the condition for receiving the virtual card according to the user information in the virtual card opening request. After determining that the condition for receiving the virtual card is satisfied, the payment system may generate a target virtual card requested by the user according to the rule for acting as an agent to open a card, and completes the card opening agency operation.

[0051] In this embodiment of this application, the method may further include:

The payment system stores data information of the target virtual card in the payment system.

[0052] After the payment system completes the card opening agency operation and generates the target virtual card requested by the user, the payment system stores the target virtual card in the payment system, so that the user can use, through the payment system, the target virtual card to shop in an offline store subsequently.

[0053] In this embodiment of this application, the method may further include:

The payment system performs a recharging operation on the target virtual card.

[0054] After the payment system completes the card opening agency operation and generates the target virtual card requested by the user, the payment system may add credits to the target virtual card, so that the user can use, through the payment system, the balance in the target virtual card to shop in an offline store subsequently.

[0055] In this embodiment of this application, the method may further include:

The payment system asynchronously sends the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card.

[0056] For the target virtual card stored in the payment system, the data information of the target virtual card needs to be sent to the card issuing system according to the rule for acting as an agent to open a card. To reduce the traffic pressure of the card issuing system, the payment system may asynchronously send the data information of the target virtual card to the card issuing system according to the rule for acting as an agent to open a card.

[0057] The payment system may asynchronously send the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card in the

following two manners:

In the first manner, the payment system asynchronously sends the data information of the target virtual card stored in the payment system to the card issuing system according to a preset time interval.

[0058] For example, the payment system sends the data information of the target virtual card in a T+1 manner. That is, after a 24-hour time interval since creating of a target virtual card, data information of the newly generated target virtual card is sent to the card issuing system.

[0059] In the second manner, after receiving a target virtual card using request sent by the user, the payment system sends the data information of the target virtual card stored in the payment system to the card issuing system.

[0060] After the target virtual card is generated, the data information of the target virtual card stored in the payment system is sent to the card issuing system only after the target virtual card using request sent by the user is received, thus effectively reducing the traffic pressure and the system capacity pressure of the card issuing system.

[0061] In this embodiment of this application, the payment system receives the target virtual card using request sent by the user through the user end.

[0062] When needing to use the target virtual card in the user end, the user may send the target virtual card using request to the payment system through the user end, so that the payment system implements, according to the virtual card using request, that the user uses the target virtual card in the user end to shop in an offline store.

[0063] In the technical solution described in this embodiment of this application, a payment system obtains a rule for acting as an agent to open a card and a card opening condition from a card issuing system in advance, so that when the payment system receives a virtual card opening request sent by a user and a card opening condition is satisfied, the payment system generates, according to the rule for acting as an agent to open a card and user information in the virtual card opening request, a target virtual card requested by the user. Therefore, when the user receives the virtual card in the payment system, real-time interaction between the payment system and the card issuing system is avoided, thus effectively improving virtual card opening efficiency of the user.

Embodiment 2

[0064] FIG. 3 is a schematic flowchart of a virtual card opening method according to an embodiment of this application. The method may be shown as follows:

Step 302: A card issuing system receives a request for acting as an agent to open a card sent by a payment system.

[0065] The payment system sends the request for acting as an agent to open a card to the card opening system, and the user opens the virtual card for the user in substitution of the card issuing system.

[0066] Step 304: The card issuing system sends a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0067] The card opening system feeds back the rule for acting as an agent to open a card and the card opening condition to the payment system after agreeing on card opening agency of the payment system. The payment system receives the rule for acting as an agent to open a card and the card opening condition, and stores the rule for acting as an agent to open a card and the card opening condition in the payment system.

[0068] The rule for acting as an agent to open a card represents a card opening rule agreed upon by the payment system and the card issuing system. The card opening condition may include an introduction, a protocol, and a condition for receiving the virtual card, and may further include other card opening conditions according to actual situations, which are not specifically limited herein.

[0069] In this embodiment of this application, the method may further include:

The card issuing system receives data information of a newly generated target virtual card sent by the payment system.

[0070] According to the card opening agency rule, the payment system asynchronously sends the data information of the newly generated target virtual card in the payment system to the card issuing system, and the card issuing system receives the data information of the newly generated target virtual card sent by the payment system.

[0071] In the technical solution described in this embodiment of this application, a card issuing system sends a rule for acting as an agent to open a card and a card opening condition to a payment system after receiving a request for acting as an agent to open a card from the payment system, so that when the card opening condition is satisfied, the payment system can generate a target virtual card for the user according to the rule for acting as an agent to open a card. Therefore, virtual card opening is decoupled from the card issuing system under the condition that the user receives the virtual card in time, and traffic load pressure of the card issuing system is effectively reduced.

Embodiment 3

[0072] FIG. 4 is a schematic diagram of a virtual card opening method according to an embodiment of this application. The method may be shown as follows:

Step 402: A third-party system sends a request for acting as an agent to open a card to a card issuing system.

[0073] The third-party system may be a system other than the card issuing system, for example, a payment system.

[0074] Step 404: The card issuing system receives the request for acting as an agent to open a card, and sends a rule for acting as an agent to open a card and a card opening condition to the third-party system.

[0075] Step 406: A user end receives a virtual card opening request sent by a user, and sends the virtual card opening request to the third-party system, where the virtual card opening request includes user information of the user and type identifier information of a virtual card requested by the user.

[0076] The user end is a third-party system in a user terminal device.

[0077] Step 408: The third-party system receives the virtual card opening request, and searches for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the third-party system, and generates a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

Embodiment 4

[0078] FIG. 5 is a schematic structural diagram of an electronic device according to an embodiment of this application. As shown in FIG. 5, on a hardware layer, the electronic device includes a processor, and optionally further includes an internal bus, a network interface, and a memory. The memory may include an internal memory, such as a high-speed random-access memory (RAM), and may further include a non-volatile memory, such as at least one magnetic disk memory. Certainly, the electronic device may also include other hardware requested by services.

[0079] The processor, the network interface, and the memory may be interconnected through an internal bus. The internal bus may be an Industry Standard Architecture (ISA) bus, a Peripheral Component Interconnect (PCI) bus, or an Extended Industry Standard Architecture (EISA) bus, or the like. The bus may be divided into an address bus, a data bus, a control bus, and the like. For ease of description, only one double-headed arrow is used for representing the bus in FIG. 5, but it does not represent that there is only one bus or only one type of bus.

[0080] The memory is configured to store a program. Specifically, the program may include program code. The program code may include computer operation instructions. The memory may include an internal memory and a non-volatile memory, and provide instructions and data for the processor.

[0081] The processor reads a corresponding computer program from the non-volatile memory and then runs the computer program, to form a payment system on a logical layer. The processor executes the program stored in the memory and is specifically configured to perform the following operations:

receiving a virtual card opening request sent by a user, the virtual card opening request including user information of the user and type identifier information of a virtual card requested by the user;

searching for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system; and

generating a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0082] The method performed in Embodiment 1 of this application may be applied to a processor or implemented by a processor. The processor may be an integrated circuit chip and has a signal processing capability. The steps of the foregoing method may be completed by a hardware integrated logical circuit or software instructions in the processor. The processor may be a general-purpose processor, a central processing unit (CPU), a network processor (NP), or the like, and may also be a digital signal processor (DSP), an application-specific integrated circuit (ASIC), a field programmable gate array (FPGA), or another programmable logical device, a discrete gate or a transistor logical device, or a discrete hardware component. The processor may implement or perform methods, steps and logical block diagrams disclosed in the embodiments of this application. The general-purpose processor may be a microprocessor or the processor may be any conventional processor and the like. Steps of the methods disclosed with reference to the embodiments of this application may be directly executed by a hardware decoding processor, or may be executed by using a combination of hardware and software modules in the decoding processor. The software modules may be located in a mature storage medium in the field, such as a random-access memory, a flash memory, a read-only memory, a programmable read-only memory, an electrically-erasable programmable memory, or a register. The storage medium is located in the memory, and the processor reads information in the memory and completes the steps in the foregoing methods in combination with hardware of the processor.

[0083] The electronic device may further perform the method in FIG. 2 and implement the functions of Embodiment 1. Details are not described again in this embodiment of this application.

[0084] An embodiment of this application may further provide a computer readable storage medium. The computer readable storage medium may store one or more programs. The one or more programs include instructions. The instructions, when executed by an electronic

device including multiple application programs, may cause the electronic device to perform the virtual card opening method in the embodiment shown in FIG. 1 and to be specifically configured to perform the following operations:

receiving a virtual card opening request sent by a user, the virtual card opening request including user information of the user and type identifier information of a virtual card requested by the user;
searching for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system; and
generating a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0085] FIG. 6 is a schematic structural diagram of a payment system according to an embodiment of this application. The payment system 600 includes: a receiving unit 601, a searching unit 602, and a card opening unit 603.

[0086] The receiving unit 601 is configured to receive a virtual card opening request sent by a user, the virtual card opening request including user information of the user and type identifier information of a virtual card requested by the user.

[0087] The searching unit 602 is configured to search for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system.

[0088] The card opening unit 603 is configured to generate a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0089] Optionally, the payment system 600 further includes a storage unit.

[0090] The storage unit is configured to store data information of the target virtual card in the payment system.

[0091] Optionally, the payment system 600 further includes an asynchronous sending unit.

[0092] The asynchronous sending unit is configured to asynchronously send the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card.

[0093] Optionally, that the asynchronous sending unit is configured to asynchronously send the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card includes:
sending the data information of the target virtual card stored in the payment system to the card issuing system according to a preset time interval.

[0094] Optionally, the receiving unit 601 is configured to receive a target virtual card using request sent by the user; and
the asynchronous sending unit is configured to send the data information of the target virtual card stored in the payment system to the card issuing system.

[0095] Optionally, the receiving unit 601 is configured to receive the target virtual card using request sent by the user through the user end.

[0096] Optionally, the payment system 600 further includes a recharging unit.

[0097] The recharging unit is configured to perform a recharging operation on the target virtual card.

[0098] In the payment system, the receiving unit is configured to receive a virtual card opening request sent by a user, the virtual card opening request including user information of the user and type identifier information of a virtual card requested by the user; the searching unit is configured to search for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system; and the card opening unit is configured to generate a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied. Therefore, when the user receives the virtual card in the payment system, real-time interaction between the payment system and the card issuing system is avoided, thus effectively improving virtual card opening efficiency of the user.

Embodiment 5

[0099] FIG. 7 is a schematic structural diagram of an electronic device according to an embodiment of this application. As shown in FIG. 7, on a hardware layer, the electronic device includes a processor, and optionally further includes an internal bus, a network interface, and a memory. The memory may include an internal memory, such as a high-speed random-access memory (RAM), and may further include a non-volatile memory, such as at least one magnetic disk memory. Certainly, the electronic device may also include other hardware requested by services.

[0100] The processor, the network interface, and the

memory may be interconnected through an internal bus. The internal bus may be an Industry Standard Architecture (ISA) bus, a Peripheral Component Interconnect (PCI) bus, or an Extended Industry Standard Architecture (EISA) bus, or the like. The bus may be divided into an address bus, a data bus, a control bus, and the like. For ease of expression, only one double-headed arrow is used for representing the bus in FIG. 7, but it does not represent that there is only one bus or only one type of bus.

[0101] The memory is configured to store a program. Specifically, the program may include program code. The program code includes computer operation instructions. The memory may include an internal memory and a non-volatile memory, and provides instructions and data for the processor.

[0102] The processor reads a corresponding computer program from the non-volatile memory and then runs the computer program, to form a card issuing system on a logical layer. The processor executes the program stored in the memory and is specifically configured to perform the following operations:

receiving a request for acting as an agent to open a card sent by a payment system; and
sending a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0103] The method performed in Embodiment 2 of this application may be applied to a processor or implemented by a processor. The processor may be an integrated circuit chip and has a signal processing capability. The steps of the foregoing method may be completed by a hardware integrated logical circuit or software instructions in the processor. The processor may be a general-purpose processor, a central processing unit (CPU), a network processor (NP), or the like, and may also be a digital signal processor (DSP), an application-specific integrated circuit (ASIC), a field programmable gate array (FPGA), or another programmable logical device, a discrete gate or a transistor logical device, or a discrete hardware component. The processor may implement or perform methods, steps and logical block diagrams disclosed in the embodiments of this application. The general-purpose processor may be a microprocessor or the processor may be any conventional processor and the like. Steps of the methods disclosed with reference to the embodiments of this application may be directly executed by a hardware decoding processor, or may be executed by using a combination of hardware and software modules in the decoding processor. The software modules may be located in a mature storage medium in the field, such as a random-access memory, a flash memory, a read-only memory, a programmable read-only memory, an electrically-erasable programmable memory, or a register. The storage medium is located in the memory, and the processor reads information in the memory and completes the steps in the foregoing methods in combination with hardware of the processor.

[0104] The electronic device may further perform the method in FIG. 3 and implement the functions of Embodiment 2. Details are not described again in this embodiment of this application.

[0105] An embodiment of this application further provides a computer readable storage medium. The computer readable storage medium stores one or more programs. The one or more programs include instructions. The instructions, when executed by an electronic device including multiple application programs, can cause the electronic device to perform the virtual card opening method in the embodiment shown in FIG. 3 and to be specifically configured to perform the following operations:

receiving a request for acting as an agent to open a card sent by a payment system; and
sending a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0106] FIG. 8 is a schematic structural diagram of a card issuing system according to an embodiment of this application. The card issuing system 800 includes a receiving unit 801 and a sending unit 802.

[0107] The receiving unit 801 is configured to receive a request for acting as an agent to open a card sent by a payment system.

[0108] The sending unit 802 is configured to send a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0109] Optionally, the receiving unit 801 is configured to receive data information of a newly generated target virtual card sent by the payment system.

[0110] According to the card issuing system, the receiving unit is configured to receive a request for acting as an agent to open a card sent by a payment system; the sending unit is configured to send a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied. Therefore, virtual card opening is decoupled from the card issuing system under the condition that the user receives the virtual card in time, and traffic load pressure of the card issuing system is effectively reduced.

Embodiment 6

[0111] FIG. 9 is a schematic structural diagram of a virtual card opening system according to an embodiment of this application. The card opening system 900 includes a user end 901, a payment system 600, and a card issuing system 800.

[0112] The payment system 600 is configured to send a request for acting as an agent to open a card to the card issuing system 800.

[0113] The card issuing system 800 is configured to receive the request for acting as an agent to open a card, and send a rule for acting as an agent to open a card and a card opening condition to the payment system 600.

[0114] The user end 901 is configured to receive a virtual card opening request sent by a user, and send the virtual card opening request to the payment system 600, the virtual card opening request including user information of the user and type identifier information of a virtual card requested by the user.

[0115] The payment system 600 is configured to receive the virtual card opening request, search for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system, and generate a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

[0116] In the 1990s, an improvement on a technology can be obviously distinguished as an improvement on hardware (for example, an improvement on a circuit structure such as a diode, a transistor, or a switch) or an improvement on software (an improvement on a method procedure). However, with the development of technologies, improvements of many method procedures at present can be considered as direct improvements on hardware circuit structures. Almost all designers program the improved method procedures into hardware circuits to obtain corresponding hardware circuit structures. Therefore, it is improper to assume that the improvement of a method procedure cannot be implemented by a hardware entity module. For example, a programmable logic device (PLD) (such as a field programmable gate array (FPGA)) is such an integrated circuit whose logic functions are determined by devices programmed by a user. Designers perform programming to "integrate" a digital system into a PLD, without the need to ask a chip manufacture to design and manufacture a dedicated integrated circuit chip. Moreover, at present, the programming is mostly implemented by using "logic compiler" software, in replacement of manually manufactured integrated circuit chips. The logic compiler software is similar to a software compiler used for developing and writing a program, and original code before compiling also needs to be written by using a specific programming language, which is referred to as a hardware description language (HDL). There are many types of HDLs, such as Advanced Boolean Expression Language (ABEL), Altera Hardware Description Language (AHDL), Confluence, Cornell University Programming Language (CUPL), HDCal, Java Hardware Description Language (JHDL), Lava, Lola, MyHDL, PALASM, and Ruby Hardware Description Language (RHDL), among which Very-High-Speed Integrated Circuit Hardware Description Language (VHDL) and Verilog are most commonly used now. It should also be appreciated by a person skilled in the art that a hardware circuit for implementing the logic method procedure may be easily obtained by slightly logically programming the method procedure using the several hardware description languages above and programming the method procedure into an integrated circuit.

[0117] A controller can be implemented in any suitable manner. For example, the controller may be in the form of a microprocessor or a processor, a computer readable storage medium storing computer readable program code (for example, software or firmware) executed by the (micro)processor, a logic gate, a switch, an application-specific integrated circuit (ASIC), a programmable logic controller, and an embedded microcontroller. Examples of the controller include, but are not limited to, the following microcontrollers: ARC 625D, Atmel AT91SAM, Microchip PIC18F26K20, and Silicone Labs C8051F320. A memory controller can also be implemented as a part of control logic of a memory. It is also appreciated by a person skilled in the art that the controller can be implemented by using pure computer readable program code, and in addition, the method steps can be logically programmed to cause the controller to implement the same function in the form of a logic gate, a switch, an ASIC, a programmable logic controller, and an embedded microcontroller. Therefore, this type of controller can be considered as a hardware component, and apparatuses included in the controller for implementing various functions can also be considered as structures inside the hardware component. Alternatively, the apparatuses used for implementing various functions can even be considered as both software modules for implementing the method and structures inside the hardware component.

[0118] The system, apparatus, modules or units illustrated in the foregoing embodiments may be specifically implemented by a computer chip or an entity, or implemented by a product having a specific function. A typical implementation device is a computer. Specifically, the computer may be a personal computer, a laptop computer, a cellular phone, a camera phone, a smartphone, a personal digital assistant, a media player, a navigation device, an email device, a game console, a tablet computer, or a wearable device, or a combination of any of these devices.

[0119] For ease of description, during description of the apparatus, the apparatus is divided into various units based on functions, and the units are described respectively. Definitely, during implementation of this application, functions of the units may be implemented in one or more pieces of software and/or hardware.

[0120] A person skilled in the art should understand that the embodiments of the present invention may be provided as a method, a system, or a computer program product. Therefore, the present invention may use a form of a hardware-only embodiment, a software-only embodiment, or an embodiment combining software and hardware aspects. Moreover, the present invention may use a form of a computer program product implemented on one or more computer-usable storage media (including, but not limited to, a disk memory, a CD-ROM, an optical memory, and the like) that include computer-usable program code.

[0121] The present invention is described with reference to the flowcharts and/or block diagrams of the method, the device (system), and the computer program product according to the embodiments of the present invention. It should be understood that computer program instructions may be used to implement each process and/or block in the flowcharts and/or the block diagrams and a combination of a process and/or a block in the flowcharts and/or the block diagrams. These computer program instructions may be provided for a general-purpose computer, a dedicated computer, an embedded processor, or a processor of another programmable data processing device to generate a machine, so that the instructions executed by a computer or a processor of another programmable data processing device generate an apparatus for implementing a function specified in one or more processes in the flowcharts and/or in one or more blocks in the block diagrams.

[0122] The computer program instructions may also be stored in a computer readable memory that can instruct the computer or another programmable data processing device to work in a specific manner, so that the instructions stored in the computer readable memory generate an artifact that includes an instruction apparatus. The instruction apparatus implements a function specified in one or more processes in the flowcharts and/or in one or more blocks in the block diagrams.

[0123] The computer program instructions may also be loaded onto a computer or another programmable data processing device, so that a series of operations and steps are performed on the computer or the another programmable device, thereby generating computer-implemented processing. Therefore, the instructions executed on the computer or the another programmable device provide steps for implementing a function specified in one or more processes in the flowcharts and/or in one or more blocks in the block diagrams.

[0124] In a typical configuration, the computing device includes one or more processors (CPUs), an input/output interface, a network interface, and a memory.

[0125] The memory may include forms such as a non-persistent memory, a random-access memory (RAM), and/or a non-volatile memory in a computer readable medium, such as a read-only memory (ROM) or a flash memory (flash RAM). The memory is an example of the computer readable medium.

[0126] The computer readable medium includes persistent and non-persistent, removable and non-removable media, which may store information by using any method or technology. The information may be a computer readable instruction, a data structure, a program module, or other data. The example of the computer storage medium includes, but is not limited to, a phase change memory (PRAM), a static random access memory (SRAM), a dynamic random access memory (DRAM), other types of random access memories (RAMs), a read-only memory (ROM), an electrically erasable programmable read-only memory (EEPROM), a flash memory or other memory technologies, a compact disc read-only memory (CD-ROM), a digital versatile disc (DVD) or other optical storages, a cassette, a tape, disk storage, or other magnetic storage devices, or any other non-transmission media, which may be configured to store information that may be accessed by a computing device. According to the definitions in this specification, the computer readable medium does not include transitory computer readable media (transitory media), such as a modulated data signal and carrier.

[0127] It should be further noted that, the terms "include", "comprise", and any variants thereof herein are intended to cover a non-exclusive inclusion. Therefore, in the context of a process, a method, a commodity, or a device that includes a series of elements, the process, method, commodity or device not only includes such elements, but also includes other elements not specified expressly, or may include elements inherent to the process, method, commodity or device. Without more restrictions, an element limited by "include alan..." does not exclude other same elements existing in the process, method, commodity or device that includes the element.

[0128] This application may be described in general context of a computer executable instruction executed by a computer, for example, in a program module. Generally, the program module includes a routine, a program, an object, a component, a data structure, and the like for executing a specific task or implementing a specific abstract data type. This application may also be practiced in distributed computing environments. In the distributed computing environments, the task is executed by a remote processing device connected through a communications network. In the distributed computing environments, the program module may be located in local and remote computer storage media including a storage device.

[0129] The embodiments in this specification are described in a progressive manner. For same or similar parts in the embodiments, reference may be made to each other. Each embodiment focuses on a difference from other embodiments. Especially, the system embodiment is basically similar to the method embodiment, and therefore is described briefly; for related parts, reference may be made to partial descriptions in the method embodiment.

[0130] The foregoing descriptions are merely preferred

embodiments of this application, but are not intended to limit this application. Any modification, equivalent replacement, or improvement made within the spirit and principle of this application shall fall within the scope of the claims of this application.

Claims

1. A virtual card opening method, comprising:

   receiving, by a payment system, a virtual card opening request sent by a user, the virtual card opening request comprising user information of the user and type identifier information of a virtual card requested by the user;
   searching, by the payment system, for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system; and
   generating, by the payment system, a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

2. The method according to claim 1, further comprising:
   storing, by the payment system, data information of the target virtual card in the payment system.

3. The method according to claim 2, further comprising:
   asynchronously sending, by the payment system, the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card.

4. The method according to claim 3, wherein the asynchronously sending, by the payment system, the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card comprises:
   sending, by the payment system, the data information of the target virtual card stored in the payment system to the card issuing system according to a preset time interval.

5. The method according to claim 3, wherein the asynchronously sending, by the payment system, the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card comprises:
   sending, by the payment system, the data information of the target virtual card stored in the payment system to the card issuing system after the payment system receives a target virtual card using request sent by the user.

6. The method according to claim 5, wherein the payment system receives the target virtual card using request sent by the user through a user end.

7. The method according to claim 1, further comprising:
   performing, by the payment system, a recharging operation on the target virtual card.

8. A virtual card opening method, comprising:

   receiving, by a card issuing system, a request for acting as an agent to open a card sent by a payment system; and
   sending, by the card issuing system, a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

9. The method according to claim 8, further comprising:
   receiving, by the card issuing system, data information of a newly generated target virtual card sent by the payment system.

10. A payment system, comprising: a receiving unit, a searching unit, and a card opening unit, wherein:

    the receiving unit is configured to receive a virtual card opening request sent by a user, the virtual card opening request comprising user information of the user and type identifier information of a virtual card requested by the user;
    the searching unit is configured to search for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system; and
    the card opening unit is configured to generate a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

11. The payment system according to claim 10, further comprising a storage unit, wherein:
the storage unit is configured to store data information of the target virtual card in the payment system.

12. The payment system according to claim 11, further comprising an asynchronous sending unit, wherein:
the asynchronous sending unit is configured to asynchronously send the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card.

13. The payment system according to claim 12, wherein that the asynchronous sending unit is configured to asynchronously send the data information of the target virtual card stored in the payment system to the card issuing system according to the rule for acting as an agent to open a card comprises:
sending the data information of the target virtual card stored in the payment system to the card issuing system according to a preset time interval.

14. The payment system according to claim 12, wherein the receiving unit is configured to receive a virtual card using request sent by the user; and
the asynchronous sending unit is configured to send the data information of the target virtual card stored in the payment system to the card issuing system.

15. The payment system according to claim 14, wherein the receiving unit is configured to receive a target virtual card using request sent by the user through a user end.

16. The payment system according to claim 10, further comprising a recharging unit, wherein:
the recharging unit is configured to perform a recharging operation on the target virtual card.

17. A payment system, comprising a memory and a processor, wherein:

the memory is configured to store a program; and
the processor is configured to execute the program stored in the memory, and specifically perform the following operations:

receiving a virtual card opening request sent by a user, the virtual card opening request comprising user information of the user and type identifier information of a virtual card requested by the user;
searching for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system; and
generating a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

18. A computer readable storage medium, the computer readable storage medium storing one or more programs, wherein the one or more programs, when executed by an electronic device comprising multiple application programs, cause the electronic device to perform the following operations:

receiving a request for acting as an agent to open a card sent by a user, the virtual card opening request comprising user information of the user and type identifier information of a virtual card requested by the user;
searching for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system according to the type identifier information, the rule for acting as an agent to open a card and the card opening condition being obtained in advance by the payment system from a card issuing system corresponding to the type identifier information and being stored in the payment system; and
generating a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

19. A card issuing system, comprising a receiving unit and a sending unit, wherein:

the receiving unit is configured to receive a request for acting as an agent to open a card sent by a payment system; and
the sending unit is configured to send a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

20. The card issuing system according to claim 19, wherein the receiving unit is configured to receive data information of a newly generated target virtual card sent by the payment system.

21. A card issuing system, comprising a memory and a processor, wherein:

the memory is configured to store a program; and
the processor is configured to execute the program stored in the memory, and specifically perform the following operations:

receiving a request for acting as an agent to open a card sent by a payment system; and
sending a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

22. A computer readable storage medium, the computer readable storage medium storing one or more programs, wherein the one or more programs, when executed by an electronic device comprising multiple application programs, cause the electronic device to perform the following operations:

receiving a request for acting as an agent to open a card sent by a payment system; and
sending a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied.

23. A virtual card opening system, comprising a user end, a payment system, and a card issuing system, wherein:

the payment system is configured to send a request for acting as an agent to open a card to the card issuing system;
the card issuing system is configured to receive the request for acting as an agent to open a card, and send a rule for acting as an agent to open a card and a card opening condition to the payment system;
the user end is configured to receive a virtual card opening request sent by a user, and send the virtual card opening request to the payment system, the virtual card opening request comprising user information of the user and type identifier information of a virtual card requested by the user; and
the payment system is configured to receive the virtual card opening request, search for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system, and generate a target virtual card according to the user information and the rule for acting as an agent to open a card when the card opening condition is satisfied.

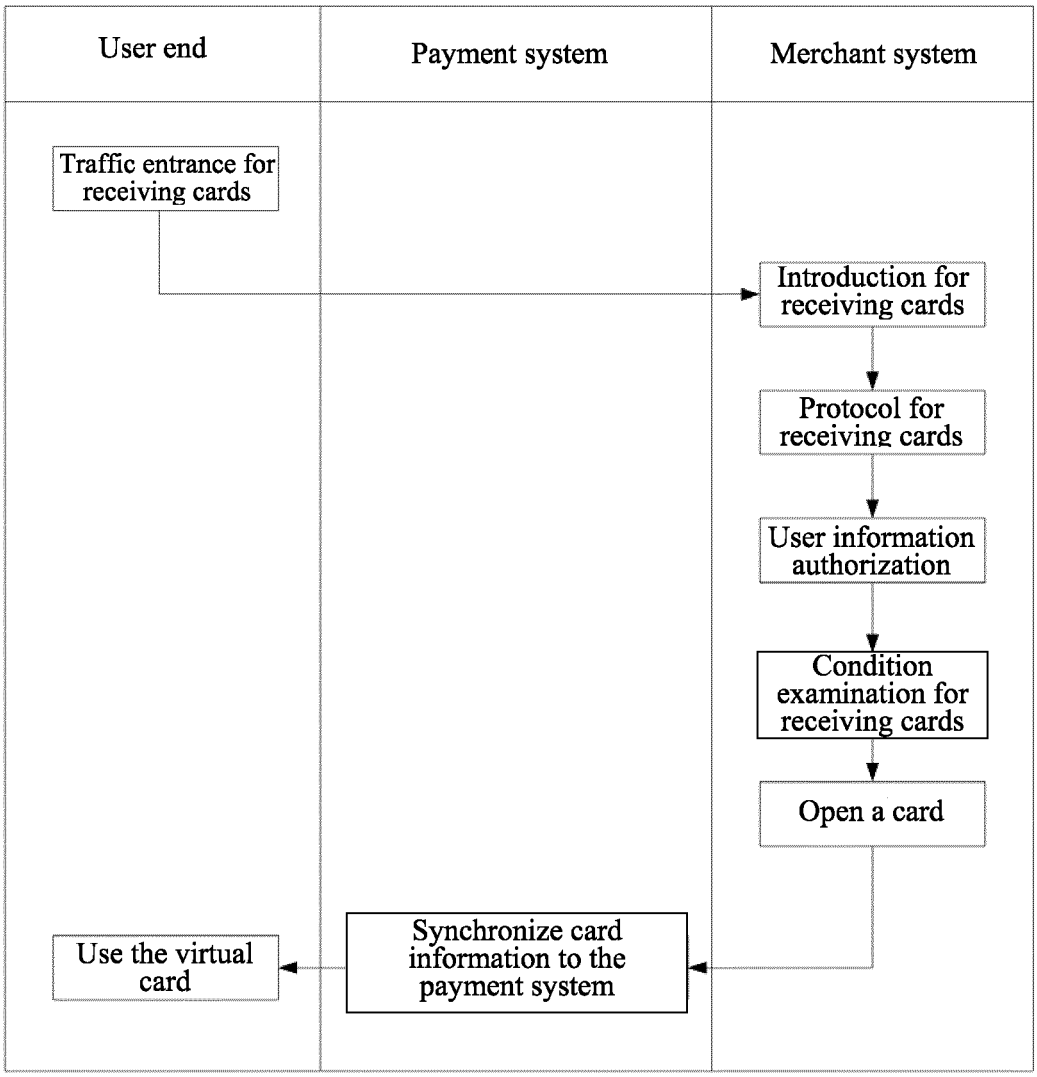
User end
Payment system
Merchant system
Traffic entrance for receiving cards
Introduction for receiving cards
Protocol for receiving cards
User information authorization
Condition examination for receiving cards
Open a card
Synchronize card information to the payment system
Use the virtual card

FIG. 1

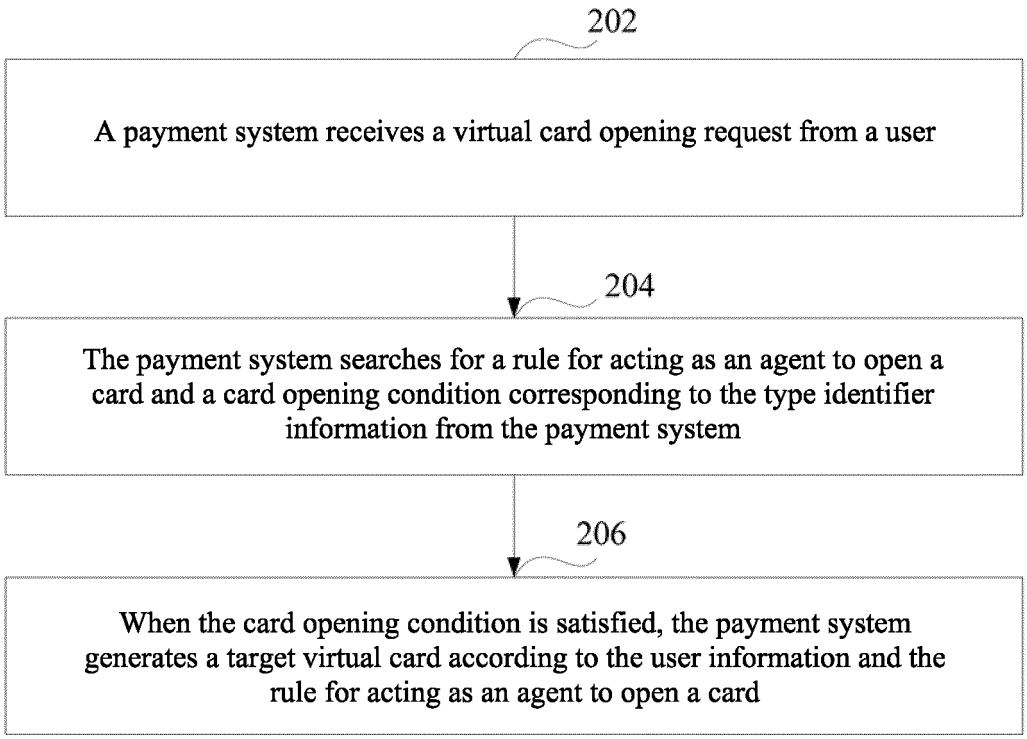
202
A payment system receives a virtual card opening request from a user
204
The payment system searches for a rule for acting as an agent to open a card and a card opening condition corresponding to the type identifier information from the payment system
206
When the card opening condition is satisfied, the payment system generates a target virtual card according to the user information and the rule for acting as an agent to open a card

FIG. 2

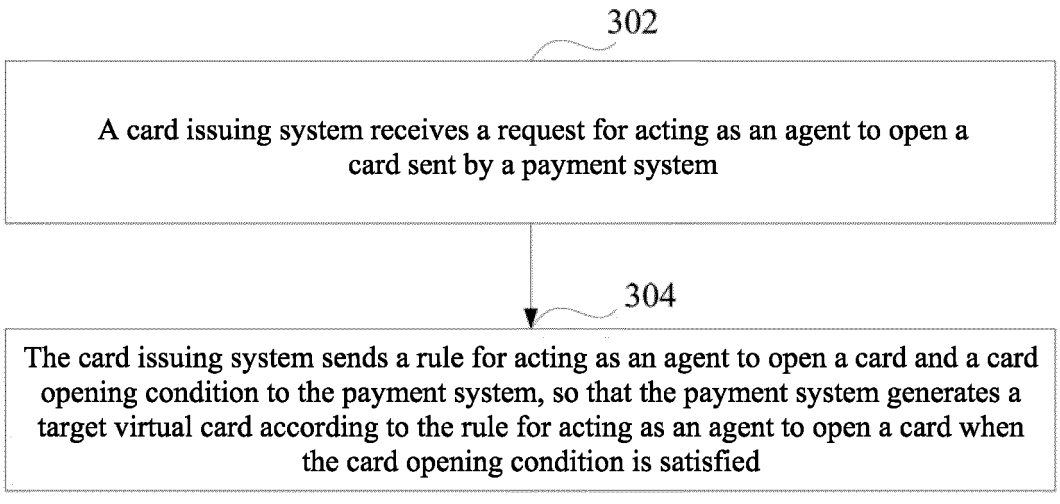
302
A card issuing system receives a request for acting as an agent to open a card sent by a payment system
304
The card issuing system sends a rule for acting as an agent to open a card and a card opening condition to the payment system, so that the payment system generates a target virtual card according to the rule for acting as an agent to open a card when the card opening condition is satisfied

FIG. 3

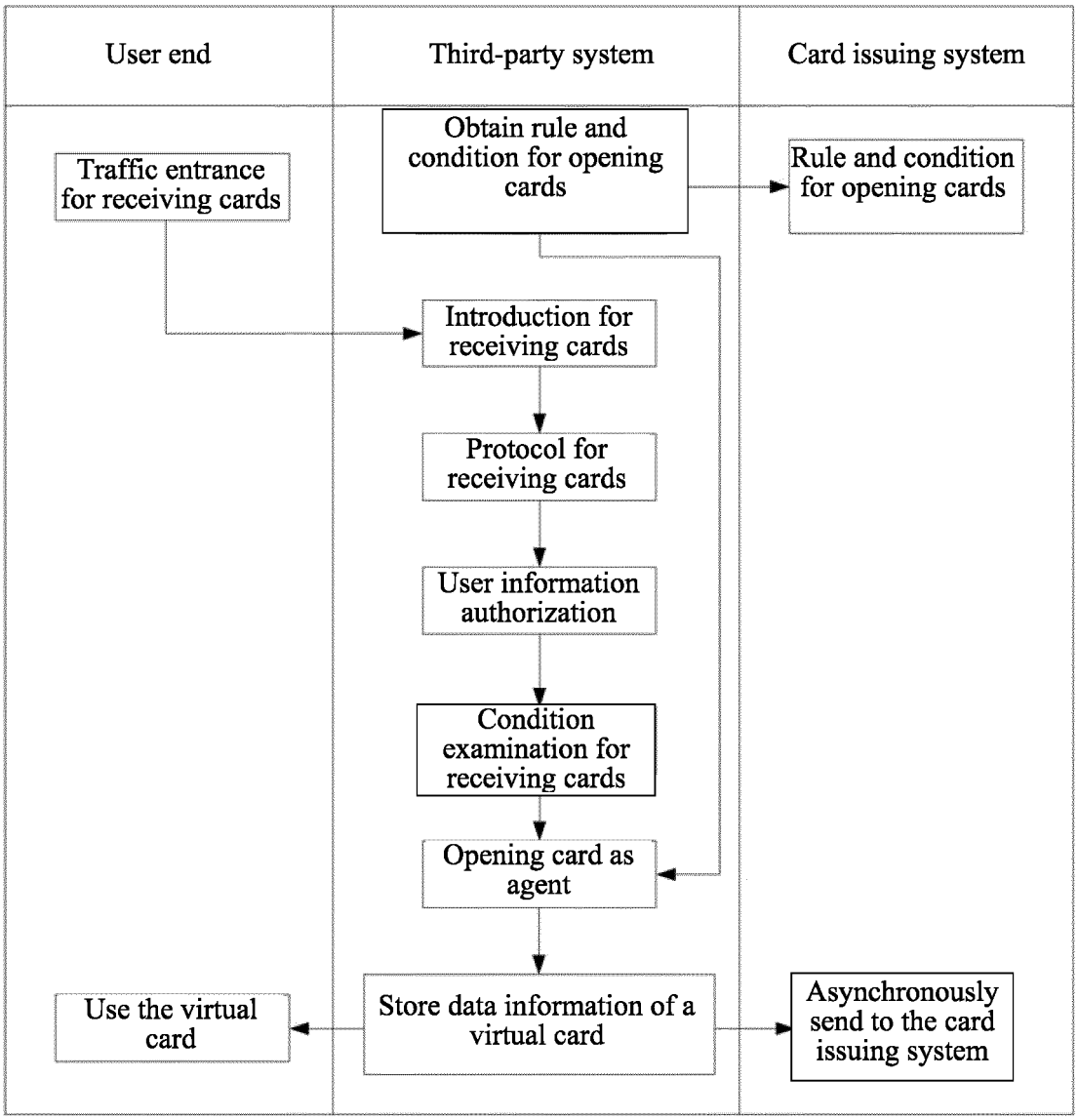
User end
Third-party system
Card issuing system
Traffic entrance for receiving cards
Obtain rule and condition for opening cards
Rule and condition for opening cards
Introduction for receiving cards
Protocol for receiving cards
User information authorization
Condition examination for receiving cards
Opening card as agent
Use the virtual card
Store data information of a virtual card
Asynchronously send to the card issuing system

FIG. 4

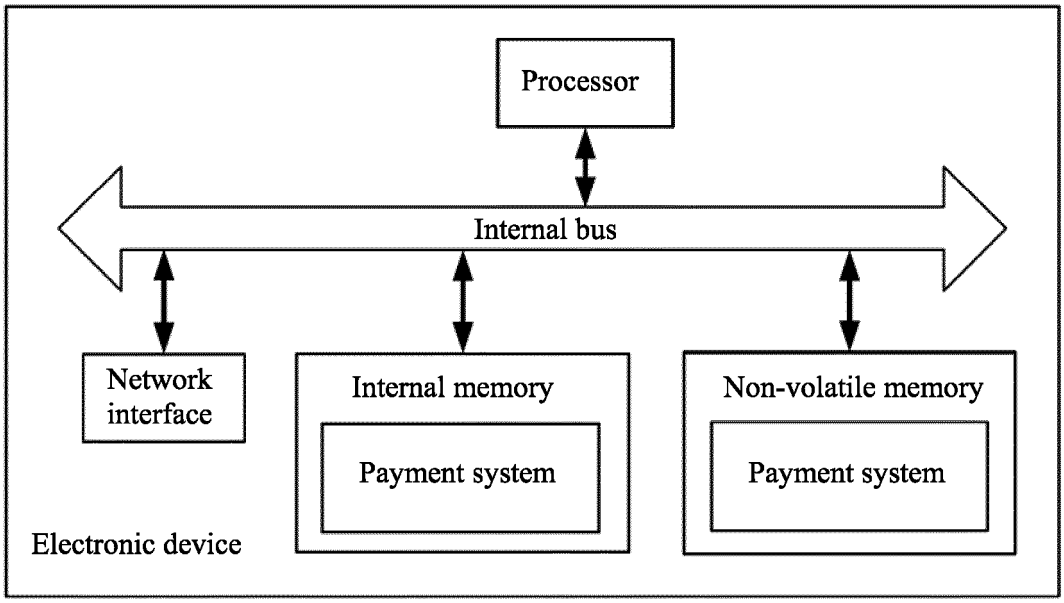
Processor
Internal bus
Network interface
Internal memory
Payment system
Non-volatile memory
Payment system
Electronic device

FIG. 5

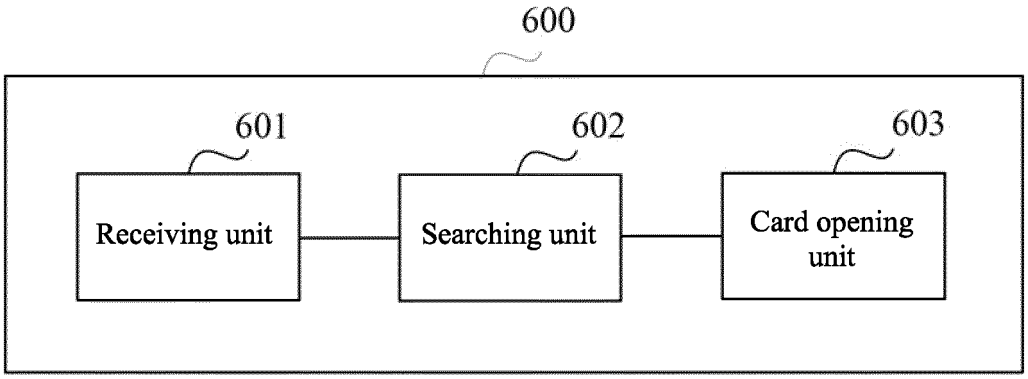
600
601
602
603
Receiving unit
Searching unit
Card opening unit

FIG. 6

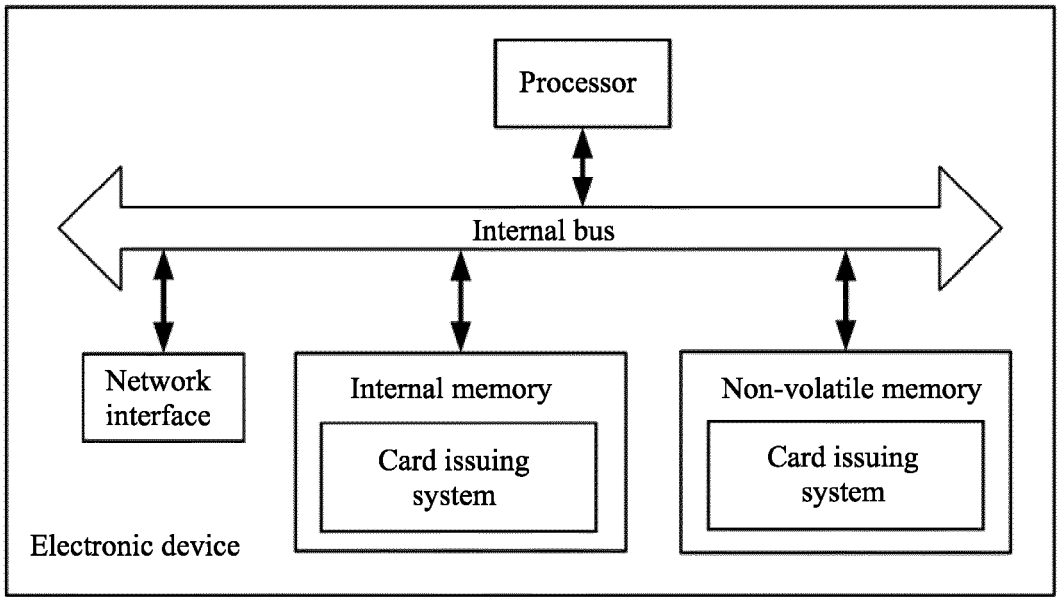
Processor
Internal bus
Network interface
Internal memory
Card issuing system
Non-volatile memory
Card issuing system
Electronic device

FIG. 7

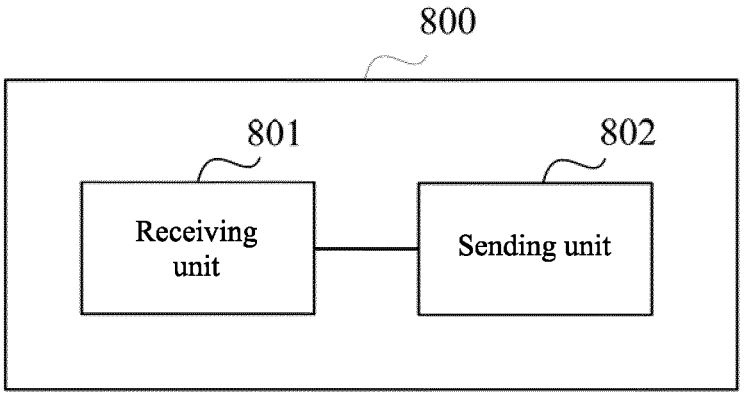
800
801
802
Receiving unit
Sending unit

FIG. 8

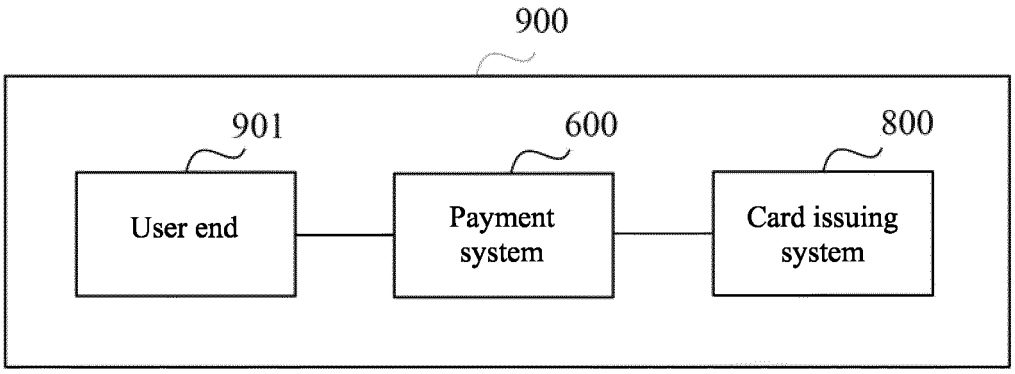

FIG. 9

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/107254

A. CLASSIFICATION OF SUBJECT MATTER

G06Q 20/34(2012.01)i; G06Q 20/40(2012.01)i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

G06Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

CNPAT, WPI, EPODOC, IEEE, CNKI: 虚拟卡, 会员卡, 开卡, 发卡, 申请, 注册, 在线, 代理, 支付, 支付宝, 微信, 用户, virtual card, membership card, open, issuance, application, registration, online, proxy, payment, Alipay, WeChat, user

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
PX	CN 107748989 A (ALIBABA GROUP HOLDING LIMITED) 02 March 2018 (2018-03-02) claims 1-23, and description, paragraphs [0003]-[0063]	1-23
X	CN 102521757 A (CHENGDU MINDPRO TECHNOLOGY CO., LTD.) 27 June 2012 (2012-06-27) description, paragraphs [0003]-[0008] and [0013]	1-23
A	CN 105139252 A (BEIJING LINHE TECHNOLOGY CO., LTD.) 09 December 2015 (2015-12-09) entire document	1-23
A	CN 106991575 A (GUANGZHOU YOUCAIHUA INFORMATION TECHNOLOGY CO., LTD.) 28 July 2017 (2017-07-28) entire document	1-23
A	CN 106713248 A (TENCENT TECHNOLOGY SHENZHEN CO., LTD.) 24 May 2017 (2017-05-24) entire document	1-23
A	CN 106529938 A (TENCENT TECHNOLOGY SHENZHEN CO., LTD.) 22 March 2017 (2017-03-22) entire document	1-23

☑ Further documents are listed in the continuation of Box C. ☑ See patent family annex.

* Special categories of cited documents:

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"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
06 December 2018	**03 January 2019**
Name and mailing address of the ISA/CN **State Intellectual Property Office of the P. R. China** **No. 6, Xitucheng Road, Jimenqiao Haidian District, Beijing 100088** **China** Facsimile No. **(86-10)62019451**	Authorized officer Telephone No.

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INTERNATIONAL SEARCH REPORT

International application No.
PCT/CN2018/107254

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 2012271692 A1 (HUANG, XINGANG ET AL.) 25 October 2012 (2012-10-25) entire document	1-23

Form PCT/ISA/210 (second sheet) (January 2015)

INTERNATIONAL SEARCH REPORT
Information on patent family members

International application No.
PCT/CN2018/107254

Patent document cited in search report	Publication date (day/month/year)	Patent family member(s)	Publication date (day/month/year)
CN 107748989 A	02 March 2018	None	
CN 102521757 A	27 June 2012	None	
CN 105139252 A	09 December 2015	None	
CN 106991575 A	28 July 2017	None	
CN 106713248 A	24 May 2017	None	
CN 106529938 A	22 March 2017	None	
US 2012271692 A1	25 October 2012	None	

Form PCT/ISA/210 (patent family annex) (January 2015)